

PHOTOMETRIC TESTING & EVALUATION TO IES LM-79-19

Sample Tested

1142YM-X-MF-RGBW-SB-MV-DMX-With Filter-WHITE Output

Prepared for:

Vista Professional Outdoor Lighting

1625 Surveyor Ave
Simi Valley, CA 93063

Technical Report Number

80239581-80

March 7, 2025

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Program Description

Photometric and electrical testing of a 1142YM-X-MF-RGBW-SB-MV-DMX-With Filter-WHITE Output Type C LED Luminaire to IES LM-79-19.

Executive Summary

Sample Tested = 1142YM-X-MF-RGBW-SB-MV-DMX-With Filter-WHITE Output

Sample Number = 44003367

Driver = ELDOLED PW50U-M4Z0X1

LED Module = LUMILEDS LUXEON 2835 Architectural

Test Condition = The sample features Red, Green, Blue, and White light settings. It was tested with only the White light turned on. The color settings were adjusted using an ENTTEC DMX USB PRO DMX512 controller.

Luminous Efficacy (Lumens/Watt)	Luminous Flux (Lumens)	Input Power (Watts)	Power Factor	ATHD (%)
80.13	2835.49	35.39	0.9812	15.09

CCT(K)	CRI	R9	Rcs,h1	Rf / Rg
3217	89.4	39	-7	89 / 96

* The above results are recorded / derived from measurements made using an Integrating Sphere

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TABLE OF CONTENTS

Test Sample Pictures.....	4
Test Result.....	5
Spectral Power Distribution.....	6
Chromaticity Diagram.....	7
Nominal CCT Quadrangles.....	8
Color Rendering Index.....	9
Photometric Test Results.....	10
Candela Tabulation.....	11
ANSI/IES TM-30-18 Color Rendition Report.....	12
Photometric Testing Information.....	14
Equipment List.....	15

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Test Sample Pictures

The following sample was submitted for evaluation:



Vista Professional Outdoor Lighting : 1142YM-X-MF-RGBW-SB-MV-DMX-With Filter-WHITE Output

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Test Result

The following results were measured after stabilization of the sample in the Integrating Sphere (unless otherwise stated). Stability shall be achieved when the variation (Maximum to minimum) of at least three readings of the light output and electrical power consumption, taken at a maximum of 10 minute intervals over a period of 20 minutes and divided by the last of these measurements chronologically, is less than 0.5%.

Key Photometric Results	Sample Reference	
	1142YM-X-MF-RGBW-SB-MV-DMX-With Filter-WHITE Output	
	Integrating Sphere	Goniophotometer
Luminous Efficacy (Lumens/Watt)	80.13	77.62
Total Luminous Flux (Lumens)	2835.49	2723.72
Total Radiant Flux (Watts)	8.92	
Correlated Color Temperature (CCT)	3217	
Color Rendering Index (CRI)(Ra)	89.4	
R9 Value	39	
IES Rf / IES Rg	89 / 96	
Local Chroma Shift Rcs,h1	-7	
Chromaticity (Chroma x/Chroma y)	0.4262 / 0.4076	
Chromaticity (Chroma u/Chroma v)	0.2422 / 0.3474	
Chromaticity (Chroma u'/Chroma v')	0.2422 / 0.5212	
Duv Value	0.0031	
Stabilization Time (Light and Power)	30 minutes	
Total Run Time (Integrating Sphere)	35 minutes	
Scotopic/Photopic ratio $\Phi(v')/\Phi(v)$	1.48	

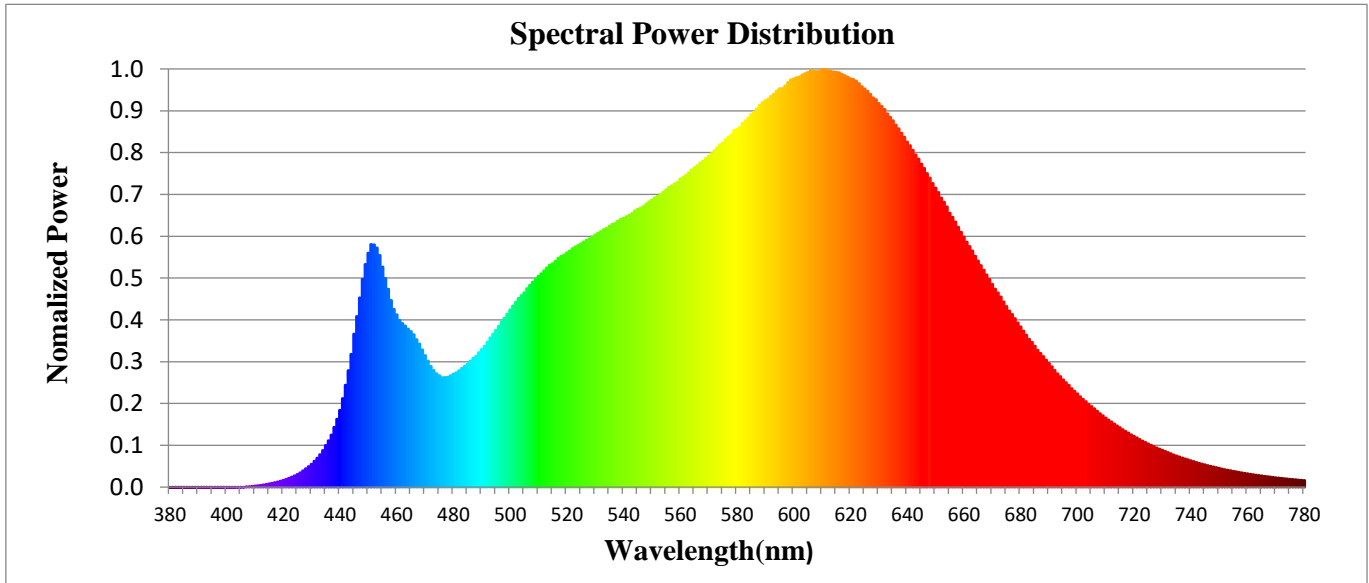
Electrical Input Results:	Sample Reference
	1142YM-X-MF-RGBW-SB-MV-DMX-With Filter-WHITE Output
Input Power (Watts)	35.39
Input Voltage (Volts AC)	120.10
Input Current (Amps)	0.30
Input Frequency (Hertz)	60.0
Power Factor	0.9812
Total Harmonic Distortion (THD V,A)%	0.12, 15.09

Additional Information	Sample Reference
	1142YM-X-MF-RGBW-SB-MV-DMX-With Filter-WHITE Output
Ambient Temperature	24.9°C
Integrating Sphere Detector	CDS 2600 Spectroradiometer
Absortion Correction Used?	Yes
Date Tested	3/5/2025

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Spectral Flux

The following graph shows the spectral response curve of the radiant flux for the sample:

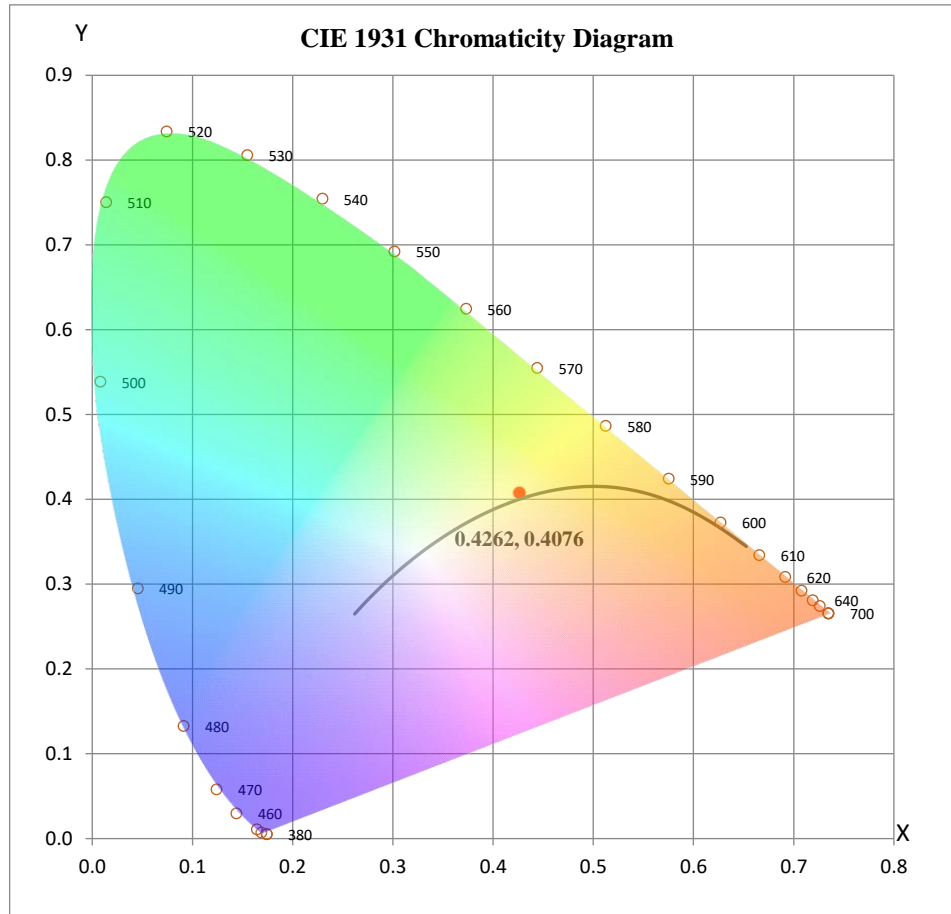


Spectral response of the Radiant Flux
 (380nm to 780nm - calibrated range of the Spectroradiometer)

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Chromaticity Diagram

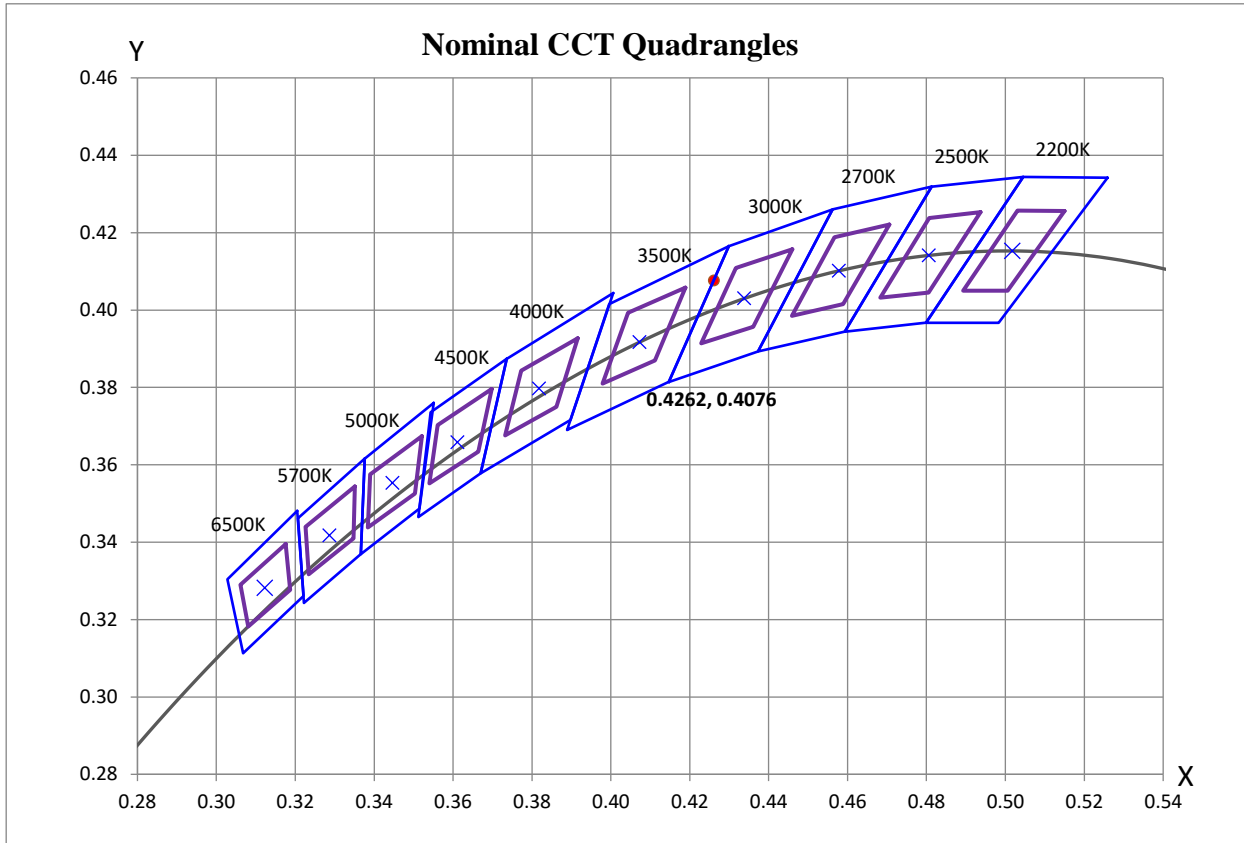
The following image shows the chromaticity diagram for the sample:



$x = 0.4262$ $y = 0.4076$

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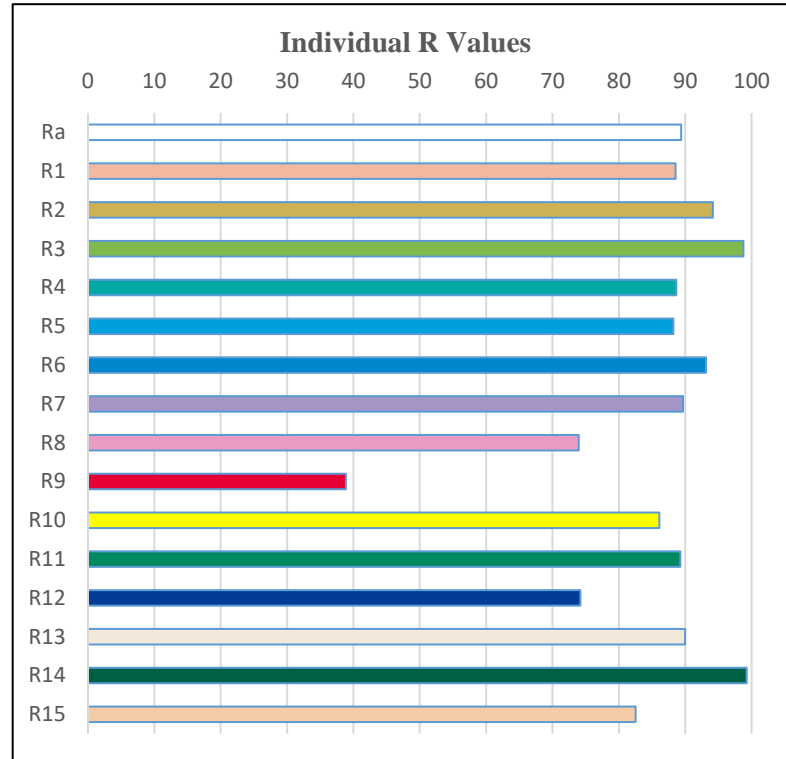
Nominal CCT Quadrangles



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Color Rendering Index

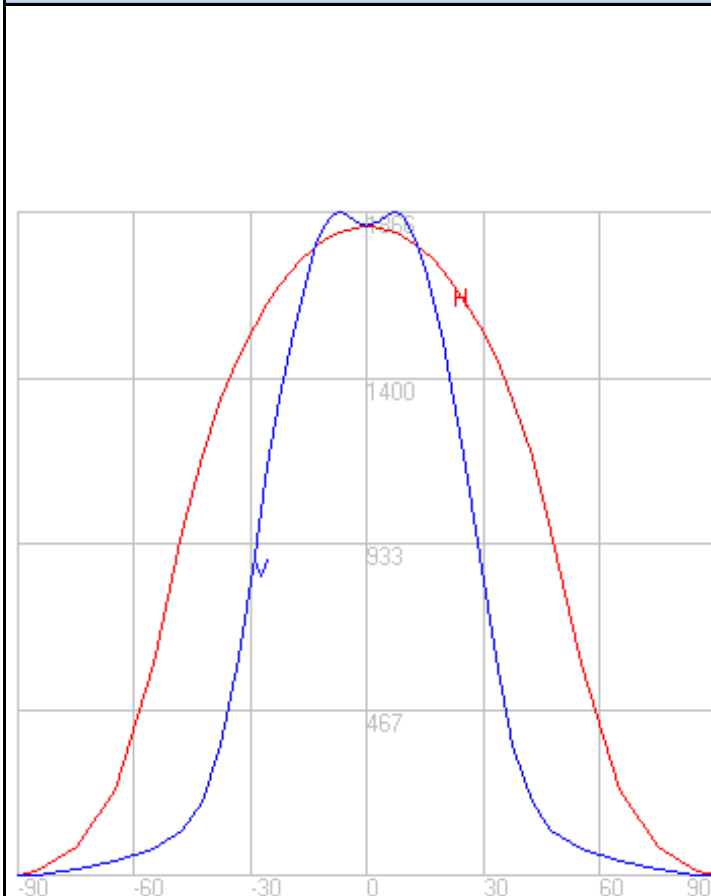
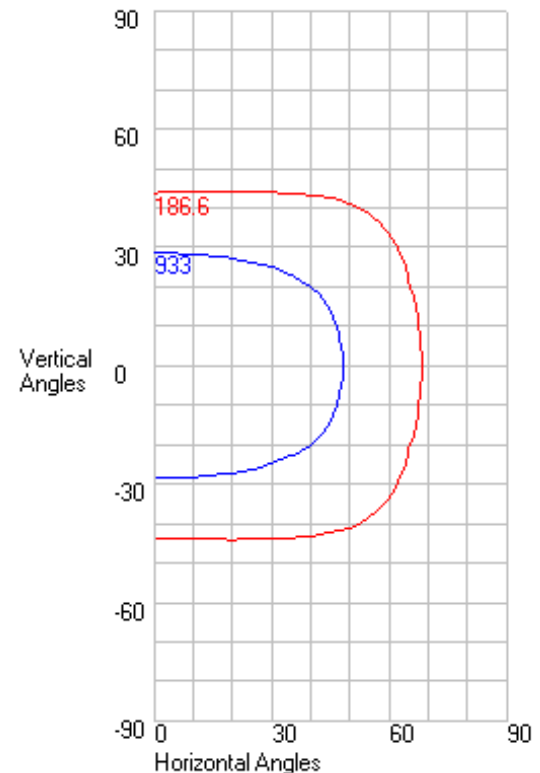
Ra	89.4
R1	89
R2	94
R3	99
R4	89
R5	88
R6	93
R7	90
R8	74
R9	39
R10	86
R11	89
R12	74
R13	90
R14	99
R15	83



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Photometric Test Results

Characteristics	
NEMA Type	7 H x 5 V
Maximum Candela	1866.00
Maximum Candela Angle	0 H -7 V
Horizontal Beam Angle (50%)	95.10
Vertical Beam Angle (50%)	57.00
Horizontal Field Angle (10%)	136.00
Vertical Field Angle (10%)	87.60
Beam Lumens	1880.00
Field Lumens	2522

Axial Candela Display

Isocandela Curves


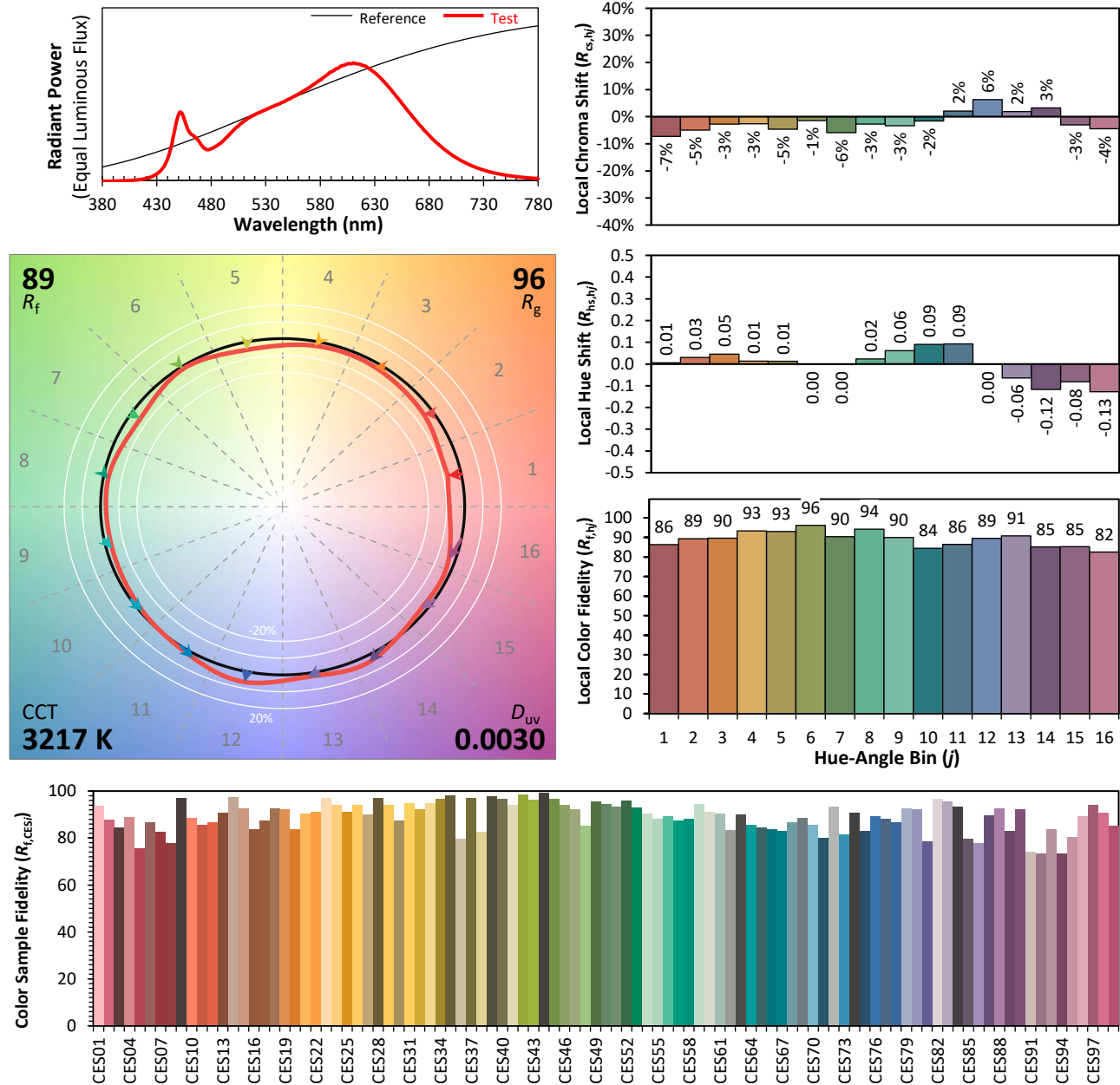
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Candela Tabulation

		Vertical Angle																																					
Horizontal Angle		0.0	2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0	22.5	25.0	27.5	30.0	32.5	35.0	37.5	40.0	42.5	45.0	47.5	50.0	52.5	55.0	57.5	60.0	62.5	65.0	67.5	70.0	72.5	75.0	77.5	80.0	82.5	85.0	87.5	90.0	
	0	1828	1839	1857	1868	1850	1794	1708	1599	1478	1344	1186	1009	824	644	485	365	275	208	161	126	103	85	72	62	55	49	43	37	31	26	20	14	9	5	2	0	0	
	5	1828	1836	1855	1867	1849	1796	1707	1598	1477	1344	1191	1017	830	651	493	369	277	210	163	129	104	86	73	63	55	49	43	38	32	26	20	14	9	5	2	0	0	
	10	1828	1837	1856	1866	1851	1798	1713	1605	1485	1354	1204	1032	847	667	507	382	288	218	168	133	107	89	75	65	57	50	44	38	33	26	20	14	9	5	2	0	0	
	15	1828	1837	1855	1865	1852	1805	1721	1617	1500	1371	1227	1060	877	698	538	404	304	231	179	141	113	93	78	68	59	52	46	40	34	27	21	15	9	5	2	0	0	
	20	1828	1834	1852	1866	1854	1808	1730	1631	1518	1394	1255	1093	916	737	572	435	331	252	194	152	122	100	84	72	63	55	49	42	36	29	22	16	10	5	2	0	0	
	25	1828	1835	1852	1864	1855	1816	1745	1650	1541	1421	1288	1138	966	791	624	478	365	279	216	169	135	110	91	78	68	59	52	45	38	31	24	17	11	5	2	1	0	
	30	1828	1836	1850	1864	1859	1823	1759	1672	1568	1454	1328	1185	1025	853	685	535	413	317	244	191	152	123	102	86	74	65	57	49	41	34	26	18	12	6	2	0	0	
	35	1828	1834	1847	1861	1860	1832	1775	1695	1598	1490	1373	1241	1091	926	761	605	470	365	284	222	175	141	116	97	83	72	62	54	45	37	28	20	13	7	3	1	0	
	40	1828	1835	1846	1858	1860	1838	1791	1720	1630	1529	1419	1296	1158	1005	845	689	549	429	336	263	207	166	135	112	95	81	70	60	50	41	31	22	14	8	3	1	0	
	45	1828	1832	1842	1851	1853	1840	1803	1742	1662	1569	1467	1356	1230	1090	940	786	638	508	403	317	250	198	160	132	111	94	80	68	56	46	35	25	16	8	3	1	0	
	50	1828	1830	1839	1846	1848	1839	1810	1759	1691	1608	1514	1411	1298	1172	1035	889	742	607	487	386	306	242	194	158	131	110	92	77	64	52	40	28	18	9	4	1	0	
	55	1828	1829	1835	1842	1842	1835	1811	1772	1716	1643	1558	1465	1364	1254	1132	998	856	718	586	471	378	301	240	194	158	130	108	90	73	59	45	32	20	11	4	1	0	
	60	1828	1829	1832	1836	1838	1832	1812	1780	1734	1673	1601	1518	1427	1330	1222	1102	971	835	701	575	464	374	298	239	193	157	128	105	85	67	51	36	23	13	5	1	0	
	65	1828	1827	1828	1828	1826	1819	1803	1779	1742	1691	1630	1558	1479	1393	1298	1193	1077	951	819	688	564	458	368	294	234	188	152	122	98	77	58	41	26	15	6	1	0	
	70	1828	1831	1828	1824	1818	1810	1796	1773	1741	1699	1648	1588	1520	1444	1359	1265	1162	1049	925	795	668	548	441	352	279	222	177	140	111	86	65	46	30	16	7	1	0	
	75	1828	1828	1824	1818	1812	1801	1785	1762	1732	1693	1649	1598	1539	1472	1397	1314	1222	1120	1006	881	752	624	507	405	322	254	200	158	123	95	71	50	32	18	7	2	0	
	80	1828	1828	1821	1815	1805	1791	1773	1749	1718	1681	1639	1593	1540	1481	1414	1339	1254	1160	1054	937	810	682	558	449	357	281	221	173	134	103	77	54	35	19	8	2	0	
	85	1828	1831	1823	1813	1803	1788	1765	1738	1706	1668	1627	1584	1534	1478	1416	1345	1267	1178	1077	962	839	713	589	475	378	298	234	182	141	108	80	56	36	20	9	2	0	
90	1828	1826	1815	1807	1798	1777	1756	1730	1697	1660	1620	1576	1526	1471	1410	1342	1266	1180	1082	971	848	722	599	484	387	306	239	186	144	110	81	57	37	21	9	2	0		

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ANSI/IES TM-30-18 Color Rendition Report



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4262
 y 0.4075
 u' 0.2422
 v' 0.5211

CIE 13.3-1995
(CRI)
 R_a 89
 R_g 39

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

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Photometric Testing Information

The sample was evaluated for photometric and electrical characteristics using an integrating sphere and a goniophotometer, each located in purpose-built, temperature and humidity-controlled, draft free environments

The integrating sphere is by Labsphere which exhibits a “4 π geometry” configuration according to IES LM-79-19 and is applicable for all types of LED products (directional and non-directional light projections). Its spectroradiometer is an array-type detector manufactured and calibrated by Labsphere.

The integrating sphere uses self-absorption correction to eliminate errors due to mismatches between the standard reference lamp and the test samples being measured. The auxiliary lamp used to perform this task is a halogen type lamp powered by a calibrated Lamp Power Supply manufactured and calibrated by Labsphere. Ambient temperature (for photometric analysis) is measured using a “J-Type” thermocouple located inside the integrating sphere at the same height as the sample under test and not more than 1 meter in horizontal distance away from the sample. The thermocouple is located behind the baffle of the photo detector in order to eliminate any direct optical radiation from the sample under test.

Luminaire Stabilization.

The sample was placed inside the integrating sphere and powered by a regulated and conditioned Voltage alternating current supply. The correlated color temperature, color rendering index, chromaticity coordinates and electrical power measurements contained in this report are the numeric averages of the three readings upon which stabilization is verified. The stabilization times shown on the results pages of this report denote the time of the 1st measurement (of the 3 consecutive readings) since this is the minimum time that the sample is assumed to have taken to reach stabilization.

The integrating sphere is calibrated using a quartzline halogen lamp with the following specifications:
(Calibrated by Labsphere – NIST traceable).

Lamp ID	J178	L177	A178
Manufacture	Donar	Donar	Donar
Model Number	SCL-1400-J178	SCL-1400-L177	SCL-1400-A178
Part ID	SCL-1400	SCL-1400	SCL-1400
Current (A)	2.679	2.679	2.679
Wattage (W)	75.0	75.0	75.0
Voltage (VDC)	28.0	28.0	28.0
Luminous Flux	1306	1417	1343
Calibration Date	6/21/2021	2/16/2021	6/21/2021

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Photometric Testing Information (Continued)

The goniophotometer Mayer Engineering Type C is calibrated using a frosted tungsten filament FDS/DZE lamp with the following specifications:

Manufacturer: GE
Part Number: DZE
Bulb Number: 106-A
Voltage: 16.93 Volts DC reference
Calibration Current: 4.863 Amperes
Luminous Intensity: 168.8 Candelas
Calibration Date: 4/25/12 (NIST traceable)

Manufacturer: GE
Part Number: DZE
Bulb Number: 106-B
Voltage: 16.45 Volts DC reference
Calibration Current: 4.79 Amperes
Luminous Intensity: 145.3 Candelas
Calibration Date: 4/25/12 (NIST traceable)

Manufacturer: GE
Part Number: DZE
Bulb Number: 106-C
Voltage: 16.57 Volts DC reference
Calibration Current: 4.829 Amperes
Luminous Intensity: 157.0 Candelas
Calibration Date: 4/25/12 (NIST traceable)

A Yokogawa WT210 Power Analyzer was used to measure all electrical characteristics of the sample.

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Equipment List: Goniophotometer Type C

Description	Manufacturer and Model Number	CSA Instrument Reference Number	Calibration Due Date
Optometer	Gigahertz Optik P9801	OPT400	N/A
Programmable DC Power Supply	Chroma Instruments 62012P-80-60	DCP300	N/A
Regulated Power Supply	Chroma Instruments 61602	AC301	N/A
Power Analyzer	Yokogawa WT210	Z00019641	10/28/2025

Equipment List: Sphere D Equipment

Description	Manufacturer and Model Number	CSA Instrument Reference Number	Calibration Due Date
Integrating Sphere 118"	Labsphere LMS-3M	Z00029788	N/A
Spectroradiometer	Labsphere CDS2600	N/A	N/A
Auxiliary Lamp PSU	Labsphere LPS525	N/A	N/A
Power Analyzer	Yokogawa WT310E	Z00025875	5/14/2025
Programmable AC Power Supply	Chroma Instruments 61605	Z00023974	N/A

* All equipment is calibrated to ISO / IEC 17025-2017 guidelines.

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